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APR 18 1968

CURRENT SERIAL RECORDS

# **WATER SUPPLY OUTLOOK FOR MONTANA**

and  
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE,

and  
MONTANA AGRICULTURAL EXPERIMENT STATION

Data included in this report were obtained by the agencies named above in cooperation with Federal, State, and private organizations listed on the inside back cover of this report.

AS OF  
APR. 1, 1968



## TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season as they affect runoff will add to be an effective average. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data or reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

### PUBLISHED BY SOIL CONSERVATION SERVICE

D. A. WILLIAMS, Administrator

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 507, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85205
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	P. O. Box 38, Boise, Idaho 83707
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Building, Salt Lake City, Utah 84111
Washington	360 Federal Office Building, Spokane, Washington 99201
Wyoming	P. O. Box 340, Casper, Wyoming 82602

### PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



# ***WATER SUPPLY OUTLOOK FOR MONTANA***

and  
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

*Issued by*

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SOIL CONSERVATION SERVICE  
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*Released by*

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MONTANA WATER SUPPLY OUTLOOK  
April 1, 1968

\* \* \* \* \*

\* Some melting occurred during March at lower  
\* elevations. Increase in stored water at  
\* higher elevations was near to a little below  
\* average. Forecasts of April-September runoff  
\* are generally 5 to 10 percent less than those  
\* reported last month - except on the Yellow-  
\* stone River drainages where they are about  
\* the same as last month.

\* \* \* \* \*

Columbia River Drainage

Snow - The snow pack decreased 5 to 10 percent average during March. Some melting occurred at lower elevations. The snow cover is about 80 percent average in the Kootenai, Flathead, Bitterroot and Lower Clark Fork River drainages. In general, high elevation snow is 90 to 95 percent average in these drainages. Snow pack is near average over the Upper Clark Fork River drainage.

Soil moisture is generally above average.

Streamflow - Runoff during March was well above average. Streamflow for the next six months is forecast to be 75 to 80 percent average in the Kootenai drainage, 70 to 80 percent average in the Flathead and Lower Clark Fork, and near average in the Upper Clark Fork and Bitterroot River drainages. Late season irrigation supplies are expected to be near to below average.



### Missouri River Drainage

Snow - The snow cover is near average in the Jefferson, Madison, Upper Yellowstone and Big Horn River drainages. Above average drainages include the Gallatin and Missouri Main Stem. Drainages north and west of Great Falls have below average snow pack. Near record snow pack is still present on some portions of the Gallatin and Missouri Main Stem drainages.

Soil moisture is generally above average as a result of melting and some rainfall during the month at low and median elevations.

Streamflow - Late season irrigation supplies from unregulated streams are expected to be near to above average. Streamflow during the next six months is forecast as near to above average in all drainages in the Missouri River basin except those in the Northwest portion.

Below average runoff is expected in the Big Horn drainage in Wyoming.



# INDEX to MONTANA SNOW COURSES and SOIL MOISTURE STATIONS

## SNOW COURSES

Drainage Basin & Course Name	Number	Elev.	Sec.	Typ.	Range	Record Began	Measuring Dates	Meas. By	Record Range	Meas. By	Drainage Basin & Course Name	Number	Elev.	Sec.	Typ.	Range	Record Began	Measuring Dates	Meas. By
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### COLUMBIA RIVER BASIN

<b>KOOTENAI RIVER</b>	15B11	5530	36	26N	31W	1950	3,4,5,5,6	2	1950	3,4,5,5,6	<b>UPPER YELLOWSTONE RIVER</b>	10C05	7500	11	4N	13E	1961	3,4,5	1
Bear Creek	15B12	4800	31	26N	30W	1965	3,4,5,5,6	2	1965	3,4,5,5,6	Bald Ridge	9D01	7890	2	8S	18E	1937	3,4,5,5,6	1
Bear River	15B13	3800	5	2'N	30W	1965	3,4,5,5,6	2	1965	3,4,5,5,6	Camp Soria	9D02	8150	19	9S	15E	1966	3,4,5	2
Brush Creek	15A21	5000	12	30N	26W	1937	3,4,5,5,6	1,2	1937	3,4,5,5,6	Cooke Station	10D05	8400	22	9S	9E	1935	3,4	2
Graves Creek	15A01	6000	4	36N	24W	1937	3,4,5,5,6	1,2	1937	3,4,5,5,6	Crevice Mountain	9D06	9100	11	9S	14E	1966	1,2,3,4,5,5,6	1,2
Kessel Divide	15A07	5150	20	37N	24W	1937	3,4,5,5,6	1,2	1937	3,4,5,5,6	Crizzly Fork	10D06	8000	26	7S	13E	1961	1,2,3,4,5	1
											Independence	10D07	8200	22	7S	12E	1961	3,4,5	1
											Monument Peak	10D08	7000	22	9S	12E	1961	3,4,5,5,6	1,6
											Northeast Entrance	10D09	6000	13	4N	10E	1938	3,4,5	1
											Porcupine R.S.	10D10	6500	36	2N	6E	1960	3,4,5	1
											South Fork Shields	10D11	8100	13	4N	10E	1965	3,4,5	1
											Timberline Creek	9D04	8850	10	8S	18E	1961	3,4,5	1
											West Rosebud	9D05	7500	9	7S	16E	1960	3,4	4
											White Mill	9D08	8700	18	9S	15E	1967	3,4,5	2

## SOIL MOISTURE STATIONS

### COLUMBIA RIVER BASIN

<b>KOOTENAI RIVER</b>	15B15M	3800	5	25N	30W	1964	Monthly	Monthly	Monthly	Monthly	<b>UPPER YELLOWSTONE RIVER</b>	10C05	7500	11	4N	13E	1961	3,4,5	1
Bear Creek	15B16M	3800	5	25N	30W	1964	Monthly	Monthly	Monthly	Monthly	Bald Ridge	9D01	7890	2	8S	18E	1937	3,4,5,5,6	1
Coyote Hill	15B17M	3800	5	25N	30W	1964	Monthly	Monthly	Monthly	Monthly	Camp Soria	9D02	8150	19	9S	15E	1966	3,4,5	2
El Dorado Mine	15B18M	3800	5	25N	30W	1964	Monthly	Monthly	Monthly	Monthly	Cooke Station	10D05	8400	22	9S	9E	1935	3,4	2
Flat Burd Pass	15B19M	3800	5	25N	30W	1964	Monthly	Monthly	Monthly	Monthly	Crevice Mountain	9D06	9100	11	9S	14E	1966	1,2,3,4,5,5,6	1,2
Gold Creek Lake	15B20M	3800	5	25N	30W	1964	Monthly	Monthly	Monthly	Monthly	Crizzly Fork	10D06	8000	26	7S	13E	1961	1,2,3,4,5	1
Heart Lake Trail	15B21M	3800	5	25N	30W	1964	Monthly	Monthly	Monthly	Monthly	Independence	10D07	8200	22	7S	12E	1961	3,4,5	1
Hoodoo Basin	15B22M	3800	5	25N	30W	1964	Monthly	Monthly	Monthly	Monthly	Monument Peak	10D08	7000	22	9S	12E	1961	3,4,5,5,6	1,6
Indian Creek	15B23M	3800	5	25N	30W	1964	Monthly	Monthly	Monthly	Monthly	Northeast Entrance	10D09	6000	13	4N	10E	1938	3,4,5	1
Lubrecht Forest No. 3	15B24M	3800	5	25N	30W	1964	Monthly	Monthly	Monthly	Monthly	Porcupine R.S.	10D10	6500	36	2N	6E	1960	3,4,5	1
Lubrecht Forest No. 4	15B25M	3800	5	25N	30W	1964	Monthly	Monthly	Monthly	Monthly	South Fork Shields	10D11	8100	13	4N	10E	1965	3,4,5	1
Lubrecht Forest No. 5	15B26M	3800	5	25N	30W	1964	Monthly	Monthly	Monthly	Monthly	Timberline Creek	9D04	8850	10	8S	18E	1961	3,4,5	1
Lubrecht Forest No. 6	15B27M	3800	5	25N	30W	1964	Monthly	Monthly	Monthly	Monthly	West Rosebud	9D05	7500	9	7S	16E	1960	3,4	4
Red Lion	15B28M	3800	5	25N	30W	1964	Monthly	Monthly	Monthly	Monthly	White Mill	9D08	8700	18	9S	15E	1967	3,4,5	2

### MISSOURI RIVER BASIN

<b>BEAVERHEAD RIVER</b>	11B13M	6700	23	14S	2W	1962	Monthly	Monthly	Monthly	Monthly	<b>UPPER YELLOWSTONE RIVER</b>	10C05	7500	11	4N	13E	1961	3,4,5	1
Lakeview	11B14M	6700	23	14S	2W	1962	Monthly	Monthly	Monthly	Monthly	Bald Ridge	9D01	7890	2	8S	18E	1937	3,4,5,5,6	1
											Camp Soria	9D02	8150	19	9S	15E	1966	3,4,5	2
											Cooke Station	10D05	8400	22	9S	9E	1935	3,4	2
											Crevice Mountain	9D06	9100	11	9S	14E	1966	1,2,3,4,5,5,6	1,2
											Crizzly Fork	10D06	8000	26	7S	13E	1961	1,2,3,4,5	1
											Independence	10D07	8200	22	7S	12E	1961	3,4,5	1
											Monument Peak	10D08	7000	22	9S	12E	1961	3,4,5,5,6	1,6
											Northeast Entrance	10D09	6000	13	4N	10E	1938	3,4,5	1
											Porcupine R.S.	10D10	6500	36	2N	6E	1960	3,4,5	1
											South Fork Shields	10D11	8100	13	4N	10E	1965	3,4,5	1
											Timberline Creek	9D04	8850	10	8S	18E	1961	3,4,5	1
											West Rosebud	9D05	7500	9	7S	16E	1960	3,4	4
											White Mill	9D08	8700	18	9S	15E	1967	3,4,5	2

### MISSOURI RIVER BASIN

BEAVERHEAD RIVER										JUDITH RIVER										LEGEND																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
Bloody Dick	13D10	7600	12	8S	16W	1968	3,4,5	1	12B09	5700	25	20N	10W	1968	3,4,5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1</

1/ Numerals 1,2,3,4,5,6 refer to January 1, February 1, March 1, April 1, May 1, May 15 and June 1.

2/ Numerals refer to Agency that make the snow survey as follows:

1. U. S. Soil Conservation Service
2. U. S. Forest Service
3. U. S. Geological Survey
4. Montana Power Company
5. U. S. Indian Service
6. U. S. National Park Service
7. MSU Agricultural Experiment Station
8. U. of M. School of Forestry
9. Department of Energy, Mines & Resources
10. U. S. Bureau of Sport Fisheries & Wildlife
11. Private Cooperation
12. Soil and Water Conservation District

## LEGEND



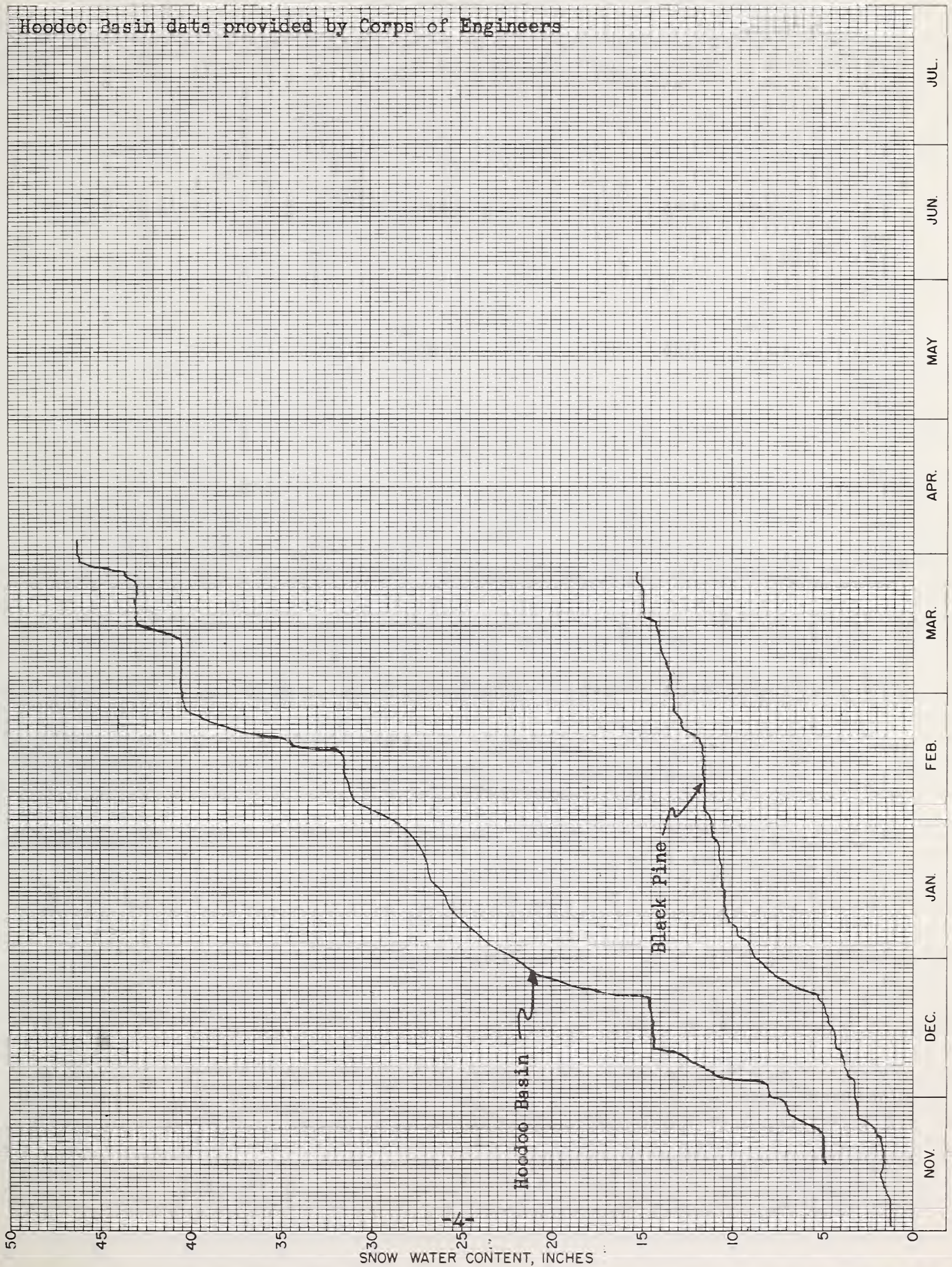
SNOW PILLOW DATA  
WATER YEAR 1968

No. \_\_\_\_\_

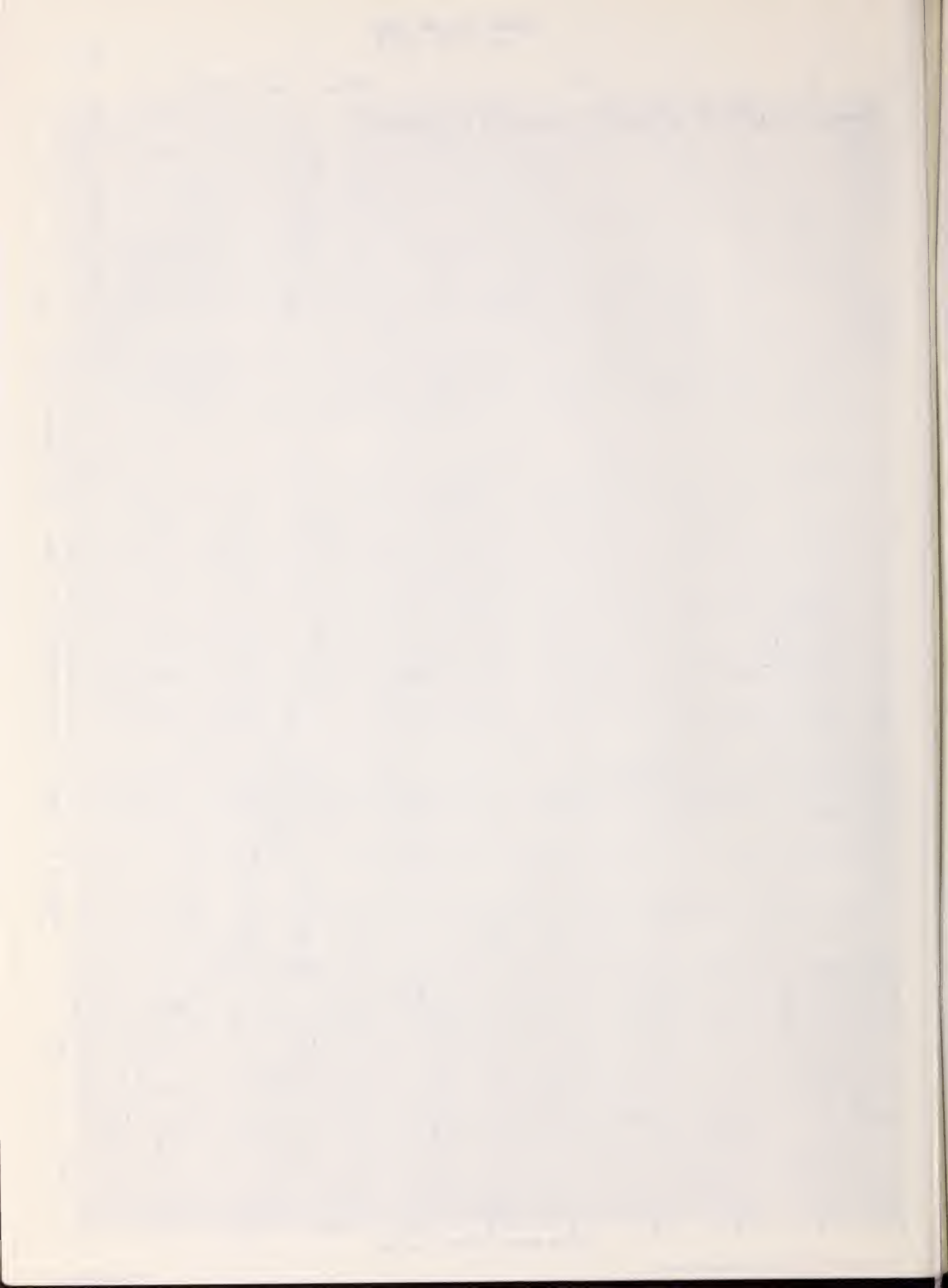
Elev. \_\_\_\_\_

Drainage: CLARK FORK

Hoodoo Basin data provided by Corps of Engineers



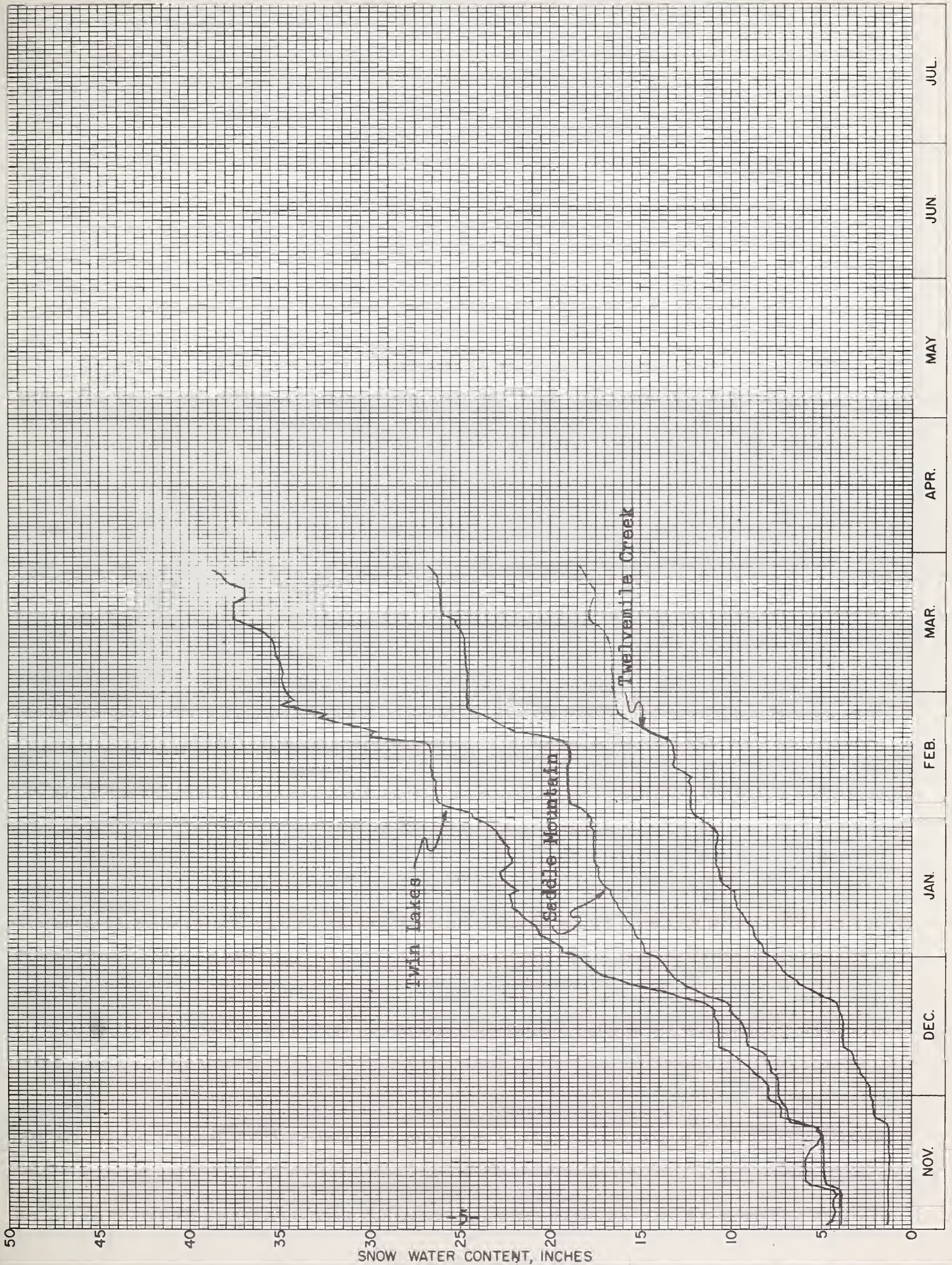




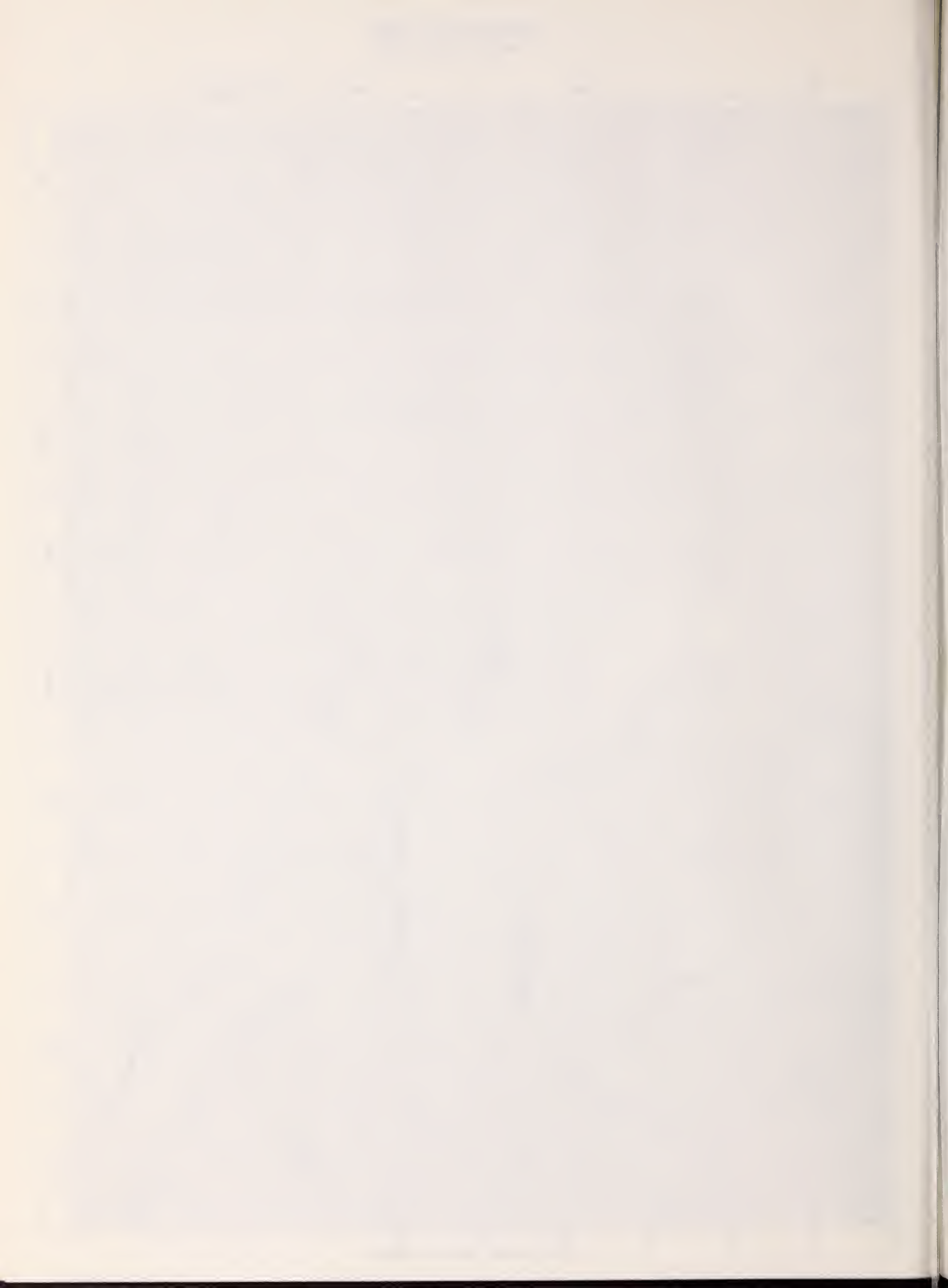


SNOW PILLOW DATA  
WATER YEAR 1968

No. \_\_\_\_\_ Elev. \_\_\_\_\_ Drainage: BITTERROOT





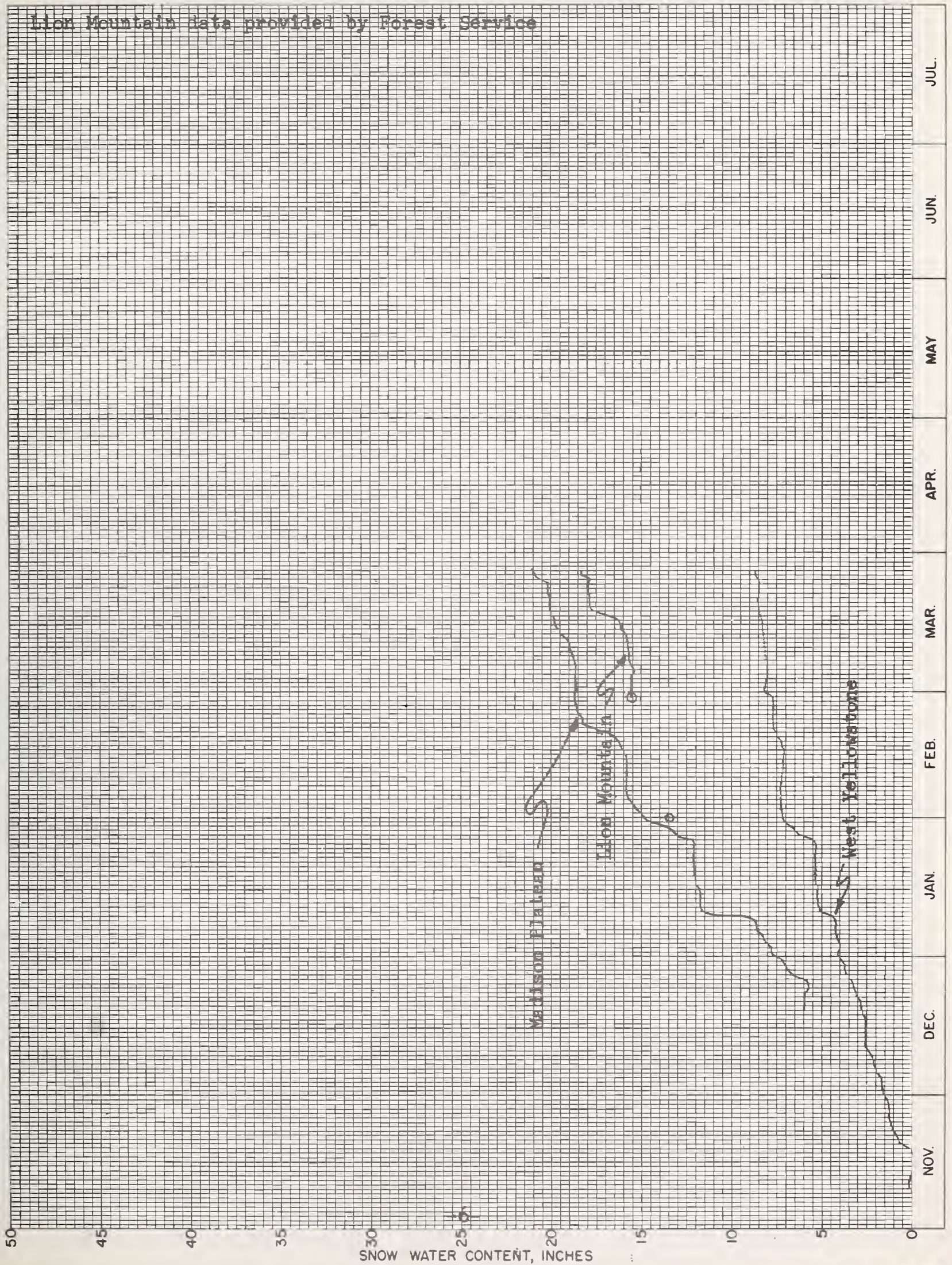




SNOW PILLOW DATA  
WATER YEAR 1968

No. \_\_\_\_\_ Elev. \_\_\_\_\_ Drainage: MADISON

Lion Mountain data provided by Forest Service



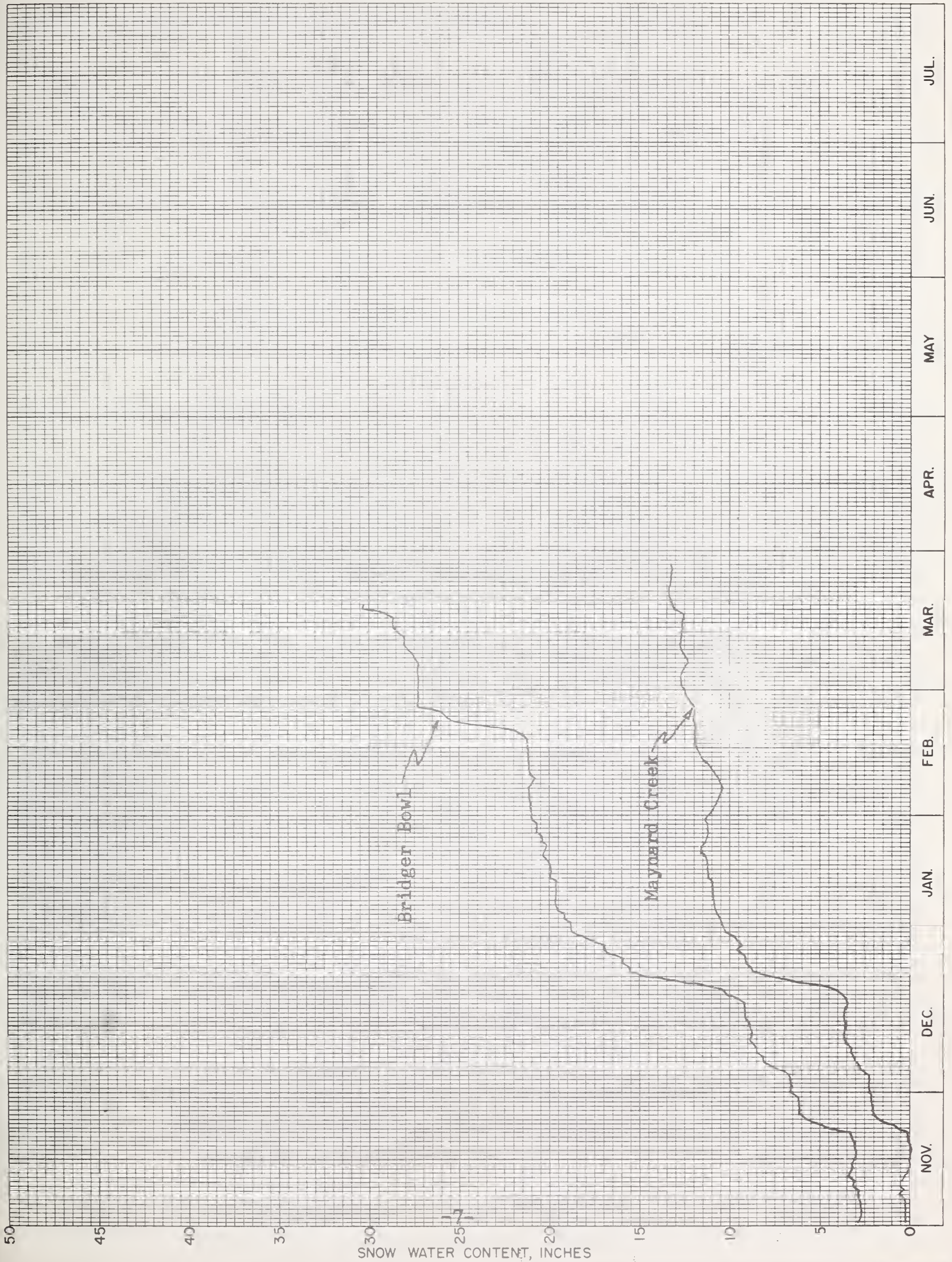






SNOW PILLOW DATA  
WATER YEAR 1968

No. \_\_\_\_\_ Elev. \_\_\_\_\_ Drainage: GALLATIN





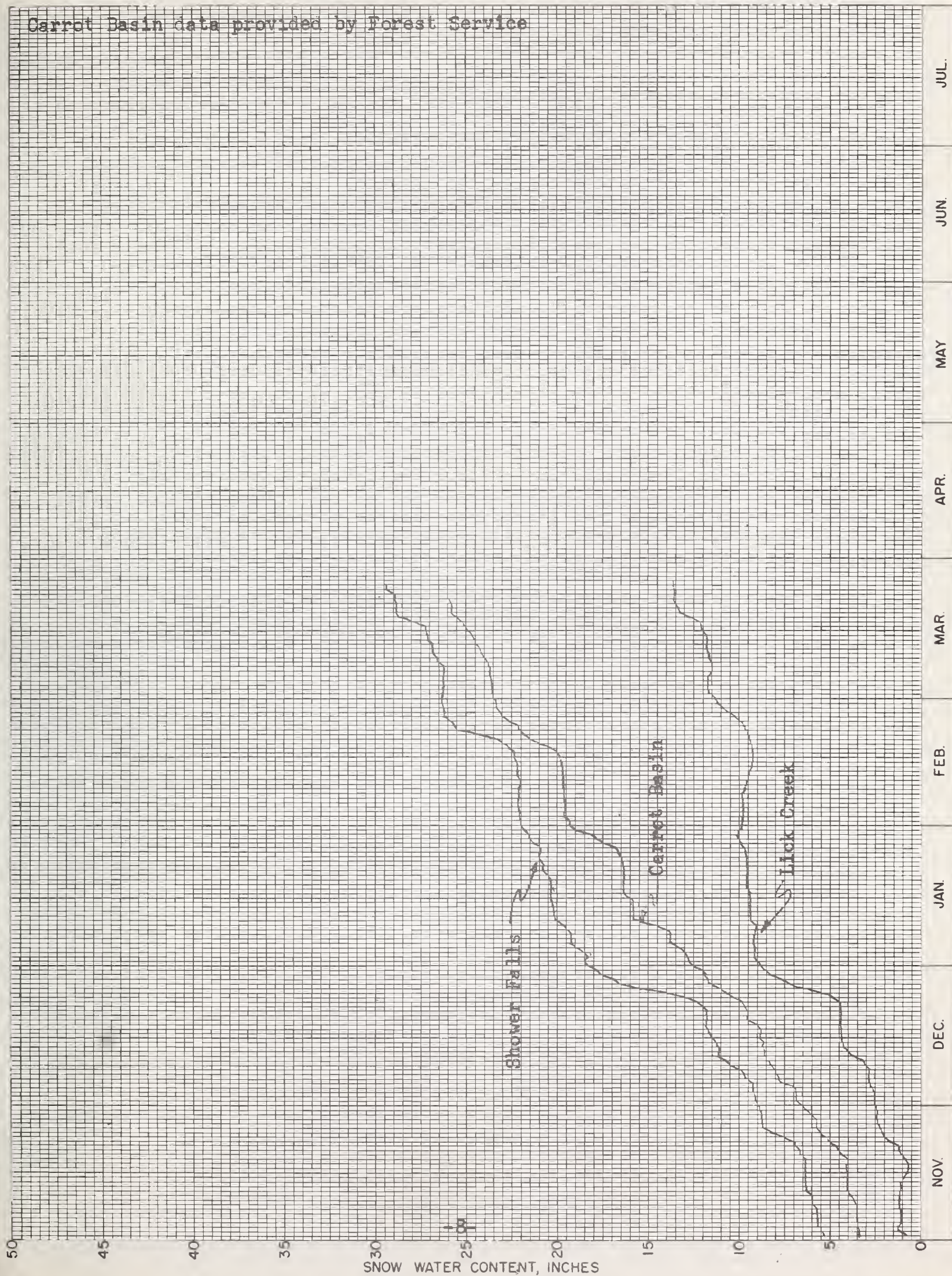


# SNOW PILLOW DATA

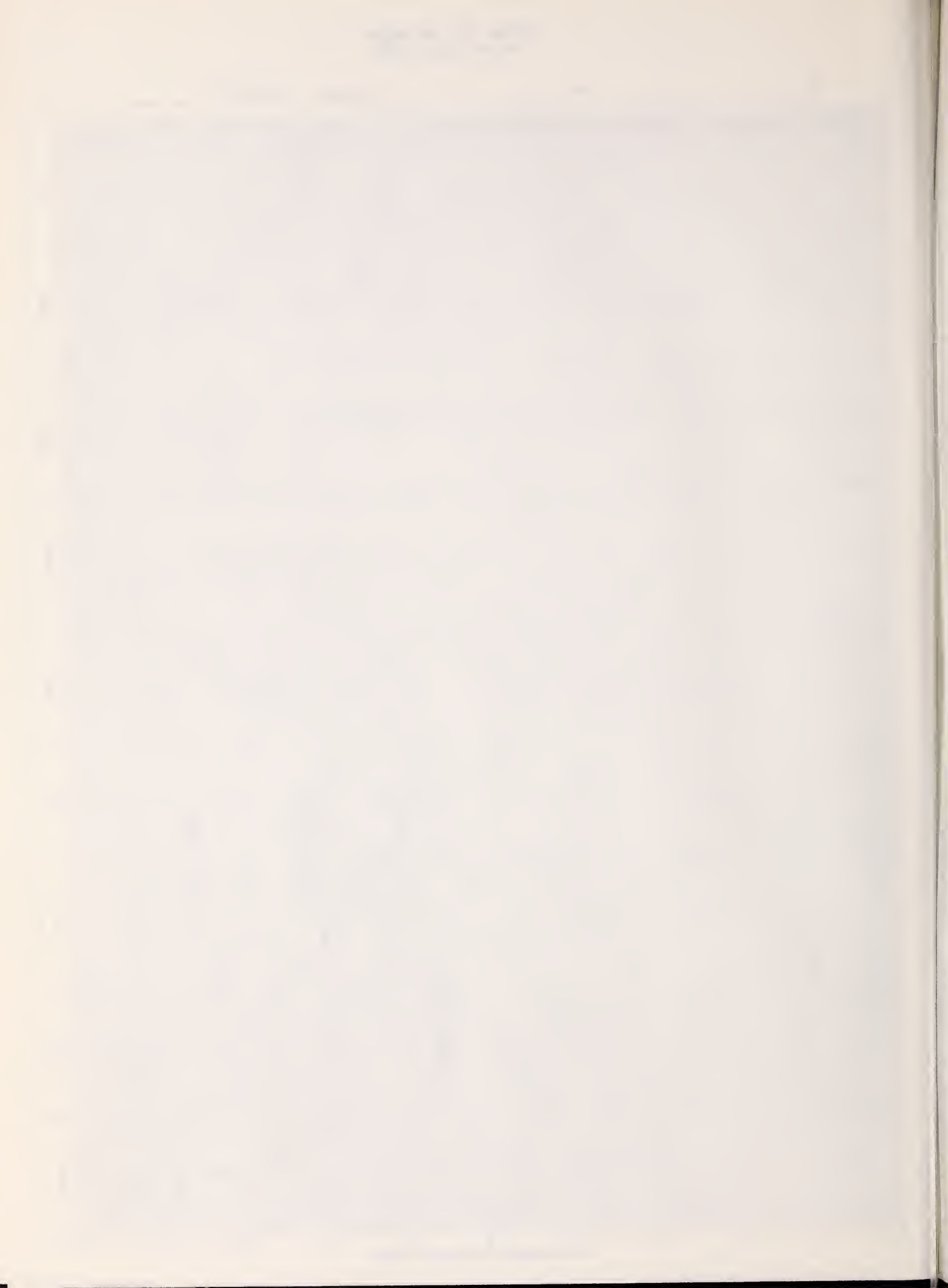
## WATER YEAR 1968

No. \_\_\_\_\_ Elev. \_\_\_\_\_ Drainage: GALLATIN

Carrot Basin data provided by Forest Service









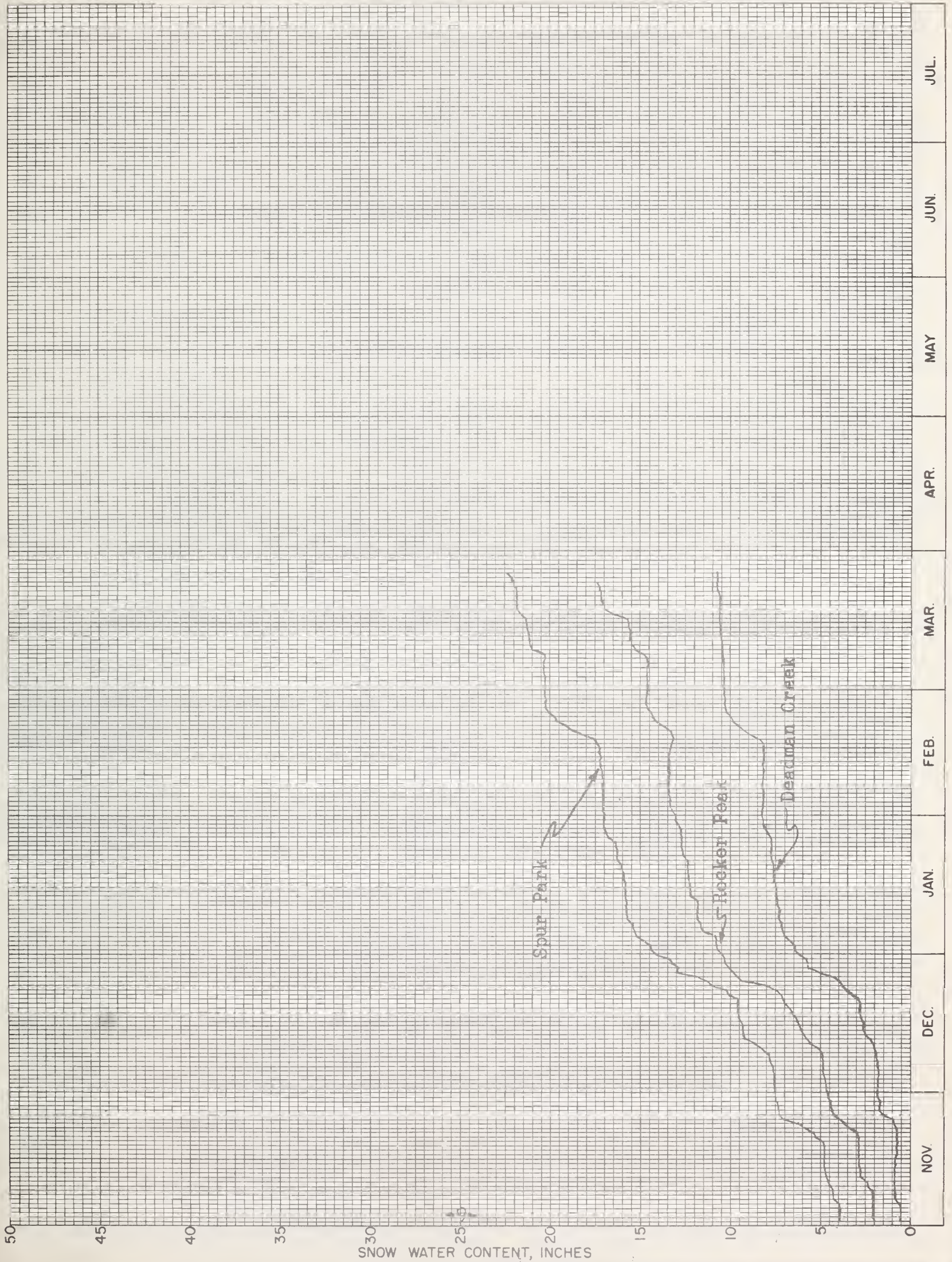
# SNOW PILLOW DATA WATER YEAR 1968

No. \_\_\_\_\_

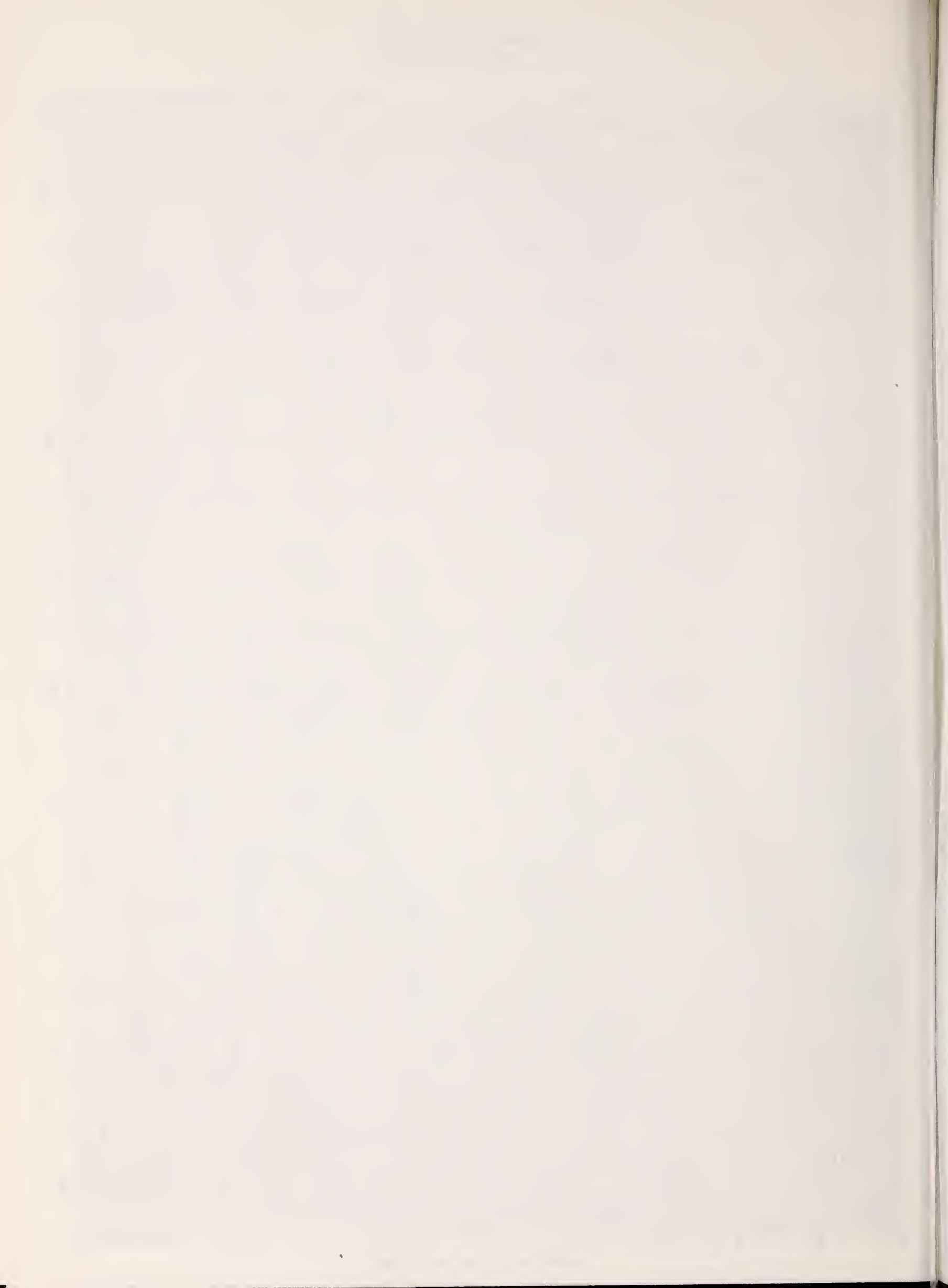
Elev. \_\_\_\_\_

Drainage: \_\_\_\_\_

JUDITH-JEFFERSON-MISSOURI



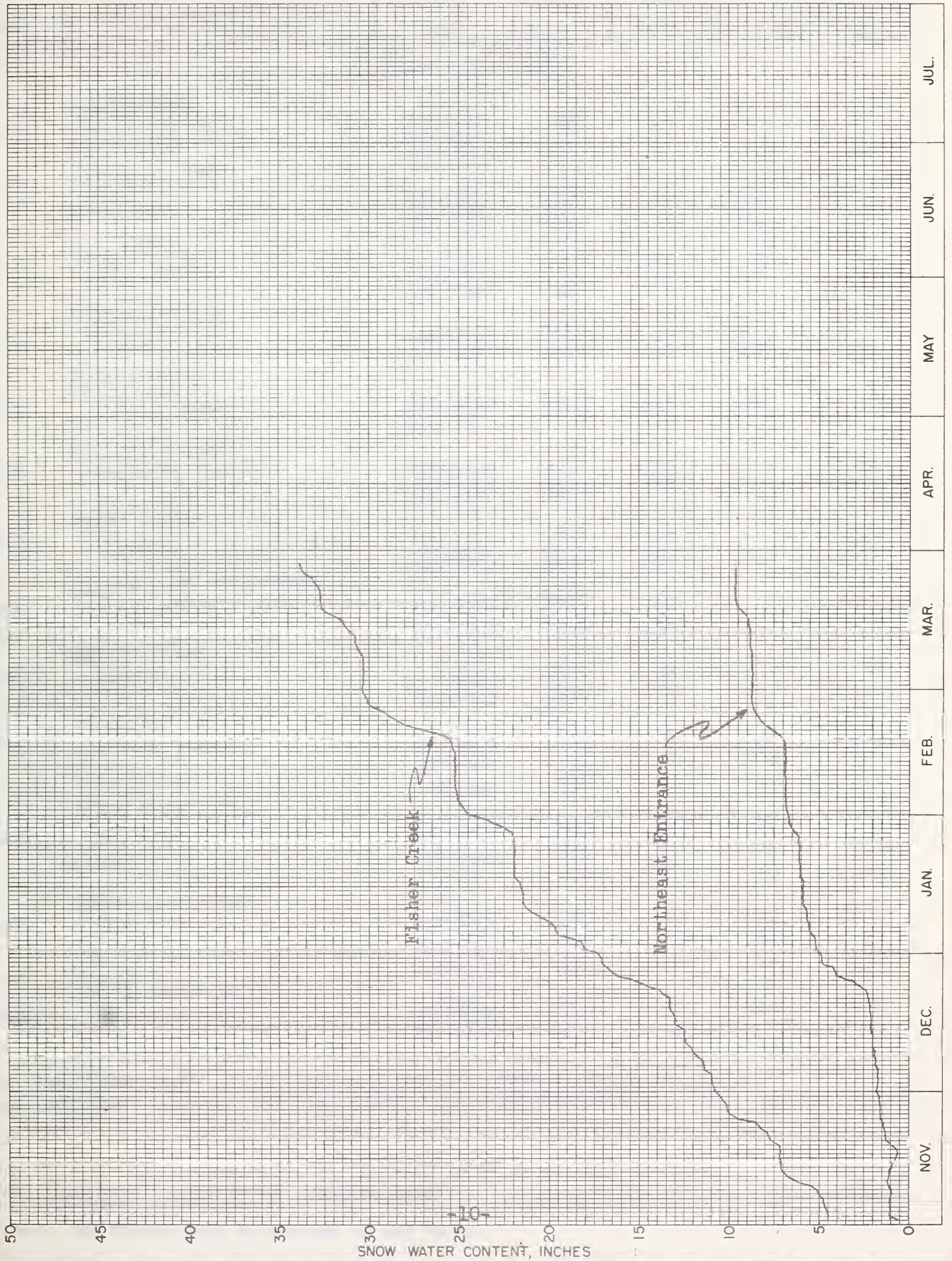






SNOW PILLOW DATA  
WATER YEAR 1968

No. \_\_\_\_\_ Elev. \_\_\_\_\_ Drainage: YELLOWSTONE







# WATER SUPPLY FORECASTS

AS OF APRIL 1, 1968

				(1000 Acre Feet)		
NO.	RIVER AND FORECAST POINT	FORECAST	FORECAST	PERCENT	MEASURED FLOW	
		PERIOD	THIS YEAR	AVERAGE	LAST YEAR*	AVERAGE
COLUMBIA RIVER BASIN						
3020	FISHER CREEK Jennings (near)	Apr-Sept	192	60	341	318
		Apr-July	182	60	336	302
3030	KOOTENAI RIVER Libby (at)	Apr-Sept	6300	78	9032	8096
		Apr-July	5470	78	8051	7010
3045	YAAK RIVER Troy (near)	Apr-Sept	455	82	583	555
		Apr-July	435	82	567	532
3050	KOOTENAI RIVER Leonia (at)	Apr-Sept	7110	76	10069	9327
		Apr-July	6200	76	9053	8179
3235	GERMAN GULCH Ramsay (near)	Apr-Sept	14.0	112	18.9	12.5
		Apr-July	13.0	112	17.5	10.2
3241	RACETRACK CREEK Anaconda (near)	Apr-Sept	37.0	105	37.4	35.4
		Apr-July	31.0	105	30.5	29.6
3301	FLINT CREEK Boulder Creek (below)(3)	Apr-Sept	75.0	103	74.3	73.0
		Apr-July	61.0	103	58.7	59.1
3320	MIDDLE FORK ROCK CREEK Philipsburg (near)	Apr-Sept	85.0	109		77.8
		Apr-July	77.0	109		70.5
3355	NEVADA CREEK Finn (near)	Apr-Sept	21.0	92	28.6	22.8
		Apr-July	19.6	92	27.2	21.3
3400	BLACKFOOT RIVER Bonner (near)	Apr-Sept	950	92	1167	1036
		Apr-July	865	92	1072	938
		Apr-June	750	92	915	812
3404	CLARK FORK RIVER Milltown (above)(4)	Apr-Sept	860	107	894	802
		Apr-July	755	107	804	705
		Apr-June	650	107	691	605
3405	CLARK FORK RIVER Missoula (above)	Apr-Sept	1810	99	2061	1838
		Apr-July	1620	99	1876	1642
		Apr-June	1400	99	1606	1417
3410	RATTLESNAKE CREEK Missoula (at)	Apr-Sept	67.0	98	68.2	68.2
		Apr-July	64.6	98	67.3	65.9

(3) Sum Flint Creek at Maxville and Boulder Creek at Maxville.

(4) Difference in observed flow Clark Fork above Missoula and Blackfoot near Bonner.





# WATER SUPPLY FORECASTS

AS OF APRIL 1, 1968

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW	
					LAST YEAR*	AVERAGE
3425	WEST FORK BITTERROOT RIVER Conner (near)(5)	Apr-Sept	170	95		179
		Apr-July	159	95		168
3434	EAST FORK BITTERROOT RIVER Conner (near)	Apr-Sept	164	97	180	169
		Apr-July	149	97	167	154
3440	BITTERROOT RIVER Darby (near)	Apr-Sept	550	94	575	582
		Apr-July	510	94	540	542
		Apr-June	450	94	476	478
3465	SKALKAHO CREEK Hamilton (near)	Apr-Sept	55.0	91	58.3	60.6
		Apr-July	49.0	91	51.4	53.9
3475	BLODGETT CREEK Corvallis (near)	Apr-Sept	44.1	99	41.0	44.6
		Apr-July	42.0	99	39.4	42.6
3528	BITTERROOT RIVER Missoula (at)(6)	Apr-Sept	1440	93		1553
		Apr-July	1340	93		1446
		Apr-June	1150	93		1253
3530	CLARK FORK RIVER Missoula (below)	Apr-Sept	3250	96		3391
		Apr-July	2960	96		3088
		Apr-June	2550	96		2670
3540	SAINT REGIS RIVER Saint Regis (near)	Apr-Sept	255	70		363
		Apr-July	240	70		346
3545	CLARK FORK RIVER Saint Regis (at)	Apr-Sept	4150	89	4832	4642
		Apr-July	3780	89	4472	4230
		Apr-June	3270	89	3846	3671
3555	NORTH FORK FLATHEAD RIVER Columbia Falls (near)	Apr-Sept	1450	71	2143	2027
		Apr-July	1310	71	1980	1844
		Apr-June	1110	71	1653	1565
3585	MIDDLE FORK FLATHEAD RIVER West Glacier (near)	Apr-Sept	1530	79	2108	1923
		Apr-July	1410	79	1970	1785
		Apr-June	1200	79	1625	1521
3625	SOUTH FORK FLATHEAD RIVER Columbia Falls (near)(7)	Apr-Sept	1960	82	2609	2381
		Apr-July	1850	82	2492	2262
		Apr-June	1630	82	2174	1988

(5) Adjusted for storage in Painted Rocks Reservoir.

(6) Difference in observed flow Clark Fork above and below Missoula.

(7) Adjusted for storage in Hungry Horse Reservoir.

# STANDARD JOURNAL FORM

Form 1-100 (Rev. 1-1-60)

NAME	DATE	TIME	LOCATION	REMARKS
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	12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# WATER SUPPLY FORECASTS

AS OF APRIL 1, 1968

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	(1000 Acre Feet) MEASURED FLOW	
					LAST YEAR*	AVERAGE
3630	FLATHEAD RIVER Columbia Falls (at)(7)	Apr-Sept	5050	78	6972	6497
		Apr-July	4700	78	6497	6028
		Apr-June	4030	78	5428	5185
3700	SWAN RIVER Big Fork (near)	Apr-Sept	595	86	696	694
		Apr-July	525	86	625	614
		Apr-June	430	86	498	503
3720	FLATHEAD RIVER Polson (near)(8)	Apr-Sept	6000	77	8163	7778
		Apr-July	5600	77	7731	7229
		Apr-June	4770	77	6553	6188
3890	CLARK FORK RIVER Plains (near)(8)	Apr-Sept	10350	81	12838	12793
		Apr-July	9500	81	11984	11736
		Apr-June	8150	81	10122	10077
3895	THOMPSON RIVER Thompson Falls (near)	Apr-Sept	212	70		302
		Apr-July	191	70		273
3907	PROSPECT CREEK Thompson Falls (at)	Apr-Sept	118	71		165
		Apr-July	110	71		155
3920	CLARK FORK RIVER Whitehorse Rapids (at)(9)	Apr-Sept	11530	80		14398
		Apr-July	10550	80		13187
		Apr-June	9050	80		11318

(7) Adjusted for storage in Hungry Horse Reservoir.

(8) Adjusted for storage in Hungry Horse Reservoir and Flathead Lake.

(9) Adjusted for storage in Hungry Horse, Flathead Lake and Noxon Rapids Reservoirs.

# STANDARD FORM NO. 64

## OFFICE OF THE SECRETARY OF DEFENSE

1. NAME OF THE OFFICE OR AGENCY	2. NAME OF THE PERSONNEL OFFICER	3. NAME OF THE PERSONNEL OFFICER'S SUPERVISOR	4. NAME OF THE PERSONNEL OFFICER'S SUPERVISOR'S SUPERVISOR
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5. TITLE	6. GRADE	7. PAY GRADE	8. PAY RATE	9. PAY ADJUSTMENT	10. REMARKS
1. Major General	1. Major General	1. Major General	1. Major General	1. Major General	1. Major General
2. Major General	2. Major General	2. Major General	2. Major General	2. Major General	2. Major General
3. Major General	3. Major General	3. Major General	3. Major General	3. Major General	3. Major General
4. Major General	4. Major General	4. Major General	4. Major General	4. Major General	4. Major General
5. Major General	5. Major General	5. Major General	5. Major General	5. Major General	5. Major General
6. Major General	6. Major General	6. Major General	6. Major General	6. Major General	6. Major General
7. Major General	7. Major General	7. Major General	7. Major General	7. Major General	7. Major General
8. Major General	8. Major General	8. Major General	8. Major General	8. Major General	8. Major General
9. Major General	9. Major General	9. Major General	9. Major General	9. Major General	9. Major General
10. Major General	10. Major General	10. Major General	10. Major General	10. Major General	10. Major General

11. DATE	12. MONTH	13. YEAR	14. DAY	15. HOUR	16. MINUTE
1. 1	1. 1	1. 1	1. 1	1. 1	1. 1
2. 2	2. 2	2. 2	2. 2	2. 2	2. 2
3. 3	3. 3	3. 3	3. 3	3. 3	3. 3
4. 4	4. 4	4. 4	4. 4	4. 4	4. 4
5. 5	5. 5	5. 5	5. 5	5. 5	5. 5
6. 6	6. 6	6. 6	6. 6	6. 6	6. 6
7. 7	7. 7	7. 7	7. 7	7. 7	7. 7
8. 8	8. 8	8. 8	8. 8	8. 8	8. 8
9. 9	9. 9	9. 9	9. 9	9. 9	9. 9
10. 10	10. 10	10. 10	10. 10	10. 10	10. 10



# WATER SUPPLY FORECASTS

AS OF APRIL 1, 1968

(1000 Acre Feet)						
NO.	RIVER AND FORECAST POINT	FORECAST	FORECAST	PERCENT	MEASURED FLOW	
		PERIOD	THIS YEAR	AVERAGE	LAST YEAR*	AVERAGE
MISSOURI RIVER BASIN						
0125	RED ROCK RIVER Monida (near)(11)	Apr-Sept	78.5	100	110	78.4
		Apr-July	73.8	100	100	73.7
0154	BEAVERHEAD RIVER Armstead (near)(11)(12)	Apr-Sept	100	91	142	111
		Apr-July	84.4	91	140	93.0
0195	RUBY RIVER Alder (near)	Apr-Sept	90	113		79.6
		Apr-July	75	113		66.4
0255	BIG HOLE RIVER Melrose (near)	Apr-Sept	750	104		718
		Apr-July	698	104		669
0260	BIRCH CREEK Glen (near)	Apr-Sept	13.9	113	18.4	12.3
		Apr-July	12.2	113	15.8	10.8
0330	BOULDER RIVER Boulder (near)	Apr-Sept	94.0	123	116	76.3
		Apr-July	90.0	123	112	73.0
0345	JEFFERSON RIVER Sappington (at)(12)	Apr-Sept	1070	110		974
		Apr-July	960	110		875
0350	WILLOW CREEK Harrison (near)	Apr-Sept	17.0	120		14.2
		Apr-July	15.6	120		13.0
0375	MADISON RIVER West Yellowstone (near)	Apr-Sept	215	103	269	208
		Apr-July	163	103	209	157
0385	MADISON RIVER Grayling (near)(13)	Apr-Sept	450	107	594	420
		Apr-July	354	107	479	330
0410	MADISON RIVER McAllister (near)(14)	Apr-Sept	810	113	996	718
		Apr-July	650	113	801	576
0435	GALLATIN RIVER Gateway (near)	Apr-Sept	595	133		447
		Apr-July	507	133		381
0485	BRIDGER CREEK Bozeman (near)	Apr-Sept	31.0	155	31.6	19.9
		Apr-July	29.1	155	29.8	18.7

(11) Adjusted for storage in Lima Reservoir.

(12) Adjusted for storage in Clark Canyon Reservoir.

(13) Adjusted for storage in Hebgen Lake.

(14) Adjusted for storage in Hebgen and Ennis Lakes.

# FARMER'S MARKET

No. 100 - 1000

DATE	NAME	ADDRESS	PHONE	MARK	PRICE
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## Produce & Meats

1	100	100	100	100	100
2	100	100	100	100	100
3	100	100	100	100	100
4	100	100	100	100	100
5	100	100	100	100	100
6	100	100	100	100	100
7	100	100	100	100	100
8	100	100	100	100	100
9	100	100	100	100	100
10	100	100	100	100	100
11	100	100	100	100	100
12	100	100	100	100	100
13	100	100	100	100	100
14	100	100	100	100	100
15	100	100	100	100	100
16	100	100	100	100	100
17	100	100	100	100	100
18	100	100	100	100	100
19	100	100	100	100	100
20	100	100	100	100	100
21	100	100	100	100	100
22	100	100	100	100	100
23	100	100	100	100	100
24	100	100	100	100	100
25	100	100	100	100	100
26	100	100	100	100	100
27	100	100	100	100	100
28	100	100	100	100	100
29	100	100	100	100	100
30	100	100	100	100	100
31	100	100	100	100	100
32	100	100	100	100	100
33	100	100	100	100	100
34	100	100	100	100	100
35	100	100	100	100	100
36	100	100	100	100	100
37	100	100	100	100	100
38	100	100	100	100	100
39	100	100	100	100	100
40	100	100	100	100	100
41	100	100	100	100	100
42	100	100	100	100	100
43	100	100	100	100	100
44	100	100	100	100	100
45	100	100	100	100	100
46	100	100	100	100	100
47	100	100	100	100	100
48	100	100	100	100	100
49	100	100	100	100	100
50	100	100	100	100	100

51	100	100	100	100	100
52	100	100	100	100	100
53	100	100	100	100	100
54	100	100	100	100	100
55	100	100	100	100	100
56	100	100	100	100	100
57	100	100	100	100	100
58	100	100	100	100	100
59	100	100	100	100	100
60	100	100	100	100	100



# WATER SUPPLY FORECASTS

AS OF APRIL 1, 1968

		FORECAST		FORECAST		PERCENT		(1000 Acre Feet)	
		PERIOD		THIS YEAR		AVERAGE		MEASURED FLOW	
NO.	RIVER AND FORECAST POINT							LAST YEAR*	AVERAGE
HYALITE CREEK									
0500	Bozeman (near)(15)	Apr-Sept	50.0	140				35.6	
		Apr-July	43.2	140				30.8	
GALLATIN RIVER									
0525	Logan (at)	Apr-Sept	675	144		642		467	
		Apr-July	570	144		576		396	
MISSOURI RIVER									
0545	Toston (at)(16)	Apr-Sept	2530	118		2990		2147	
		Apr-July	2190	118		2741		1861	
PRICKLY PEAR CREEK									
0615	Clancy (near)	Apr-Sept	26.0	118				22.0	
		Apr-July	22.7	118				19.0	
DEARBORN RIVER									
0735	Craig (near)	Apr-Sept	110	80		209		138	
		Apr-July	105	80		201		131	
SHEEP CREEK									
0770	W. Sulphur Springs (near)	Apr-Sept	24.4	148		28.1		16.5	
		Apr-July	21.0	148		24.7		14.2	
SMITH RIVER									
0775	Eden (near)	Apr-Sept	250	162		354		154	
		Apr-July	230	162		326		142	
SUN RIVER									
0786	Gibson Dam (at)(17)	Apr-Sept	490	80		747		610	
		Apr-July	448	80		695		559	
BELT CREEK									
0905	Monarch (near)	Apr-Sept	135	146				92.5	
		Apr-July	124	146				84.1	
MISSOURI RIVER									
0908	Fort Benton (at)(18)	Apr-Sept	3700	111				3319	
		Apr-July	3140	111				2825	
TWO MEDICINE CREEK									
0920	Browning (near)(19)	Apr-Sept	210	77		323		271	
		Apr-July	200	77		311		260	
BADGER CREEK									
0925	Browning (near)	Apr-Sept	105	74				143	
		Apr-July	920	74				124	
CUT BANK CREEK									
0990	Cut Bank (at)	Apr-Sept	88.0	67				131	
		Apr-July	81.0	67				120	

(15) Adjusted for storage in Middle Creek Reservoir.

(16) Adjusted for storage in Hebgen and Ennis Lakes and Clark Canyon Reservoir.

(17) Adjusted for storage in Gibson Reservoir and diversions.

(18) Adjusted for storage in Canyon Ferry Reservoir.

(19) Adjusted for storage in Two Medicine Reservoirs and diversions into Two Medicine Canal.

# WATER SUPPLY FOR CATTLE

(Continued from page 1)

No. of cattle		No. of days		No. of gallons		No. of barrels	
1	2	3	4	5	6	7	8

1	2	3	4	5	6	7	8
10	20	30	40	50	60	70	80
90	180	270	360	450	540	630	720
80	160	240	320	400	480	560	640
70	140	210	280	350	420	490	560
60	120	180	240	300	360	420	480
50	100	150	200	250	300	350	400
40	80	120	160	200	240	280	320
30	60	90	120	150	180	210	240
20	40	60	80	100	120	140	160
10	20	30	40	50	60	70	80
5	10	15	20	25	30	35	40
2	4	6	8	10	12	14	16
1	2	3	4	5	6	7	8

NOTE: The above table is based on the assumption that each cow requires 10 gallons of water per day. This is a general estimate and may vary depending on the weather, the quality of the water, and the health of the cattle.

For example, if you have 100 cows and you want to know how much water they will need for 10 days, you would look at the intersection of 100 in the first column and 10 in the first row, which is 1000 gallons.

Similarly, if you have 50 cows and you want to know how much water they will need for 5 days, you would look at the intersection of 50 in the first column and 5 in the first row, which is 250 gallons.

This table can be used to estimate the water requirements for any number of cows and any number of days.



# WATER SUPPLY FORECASTS

AS OF APRIL 1, 1968

NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	(1000 Acre Feet) MEASURED FLOW	
					LAST YEAR*	AVERAGE
0995	MARIAS RIVER Shelby (near)(20)	Apr-Sept Apr-July	450 425	69 69	791 760	651 617
1095	MISSOURI RIVER Virgelle (at)(21)	Apr-Sept Apr-July	4250 3660	103 103		4116 3557
1098	S. FORK JUDITH RIVER Utica (near)	Apr-Sept Apr-July	16.5 14.9	147 147		11.2 10.1
1150	MISSOURI RIVER Zortman (near)(21)	Apr-Sept Apr-July	4680 4030	104 104		4508 3878
1155	N. FORK MUSSELSHELL RIVER Delpine (near)	Apr-Sept Apr-July	7.4 6.2	123 124		6.0 5.0
1185	S. FORK MUSSELSHELL RIVER Martinsdale (above)	Apr-Sept Apr-July	58.0 56.5	121 121		48.8 46.6
1320	MISSOURI RIVER Ft. Peck Dam (below)(22)	Apr-Sept Apr-July	4480 3930	101 101		4422 3894
1350	MILK RIVER Eastern Crossing (at)	Apr-Sept	210	84		250
1770	MISSOURI RIVER Wolf Point (near)(22)	Apr-Sept Apr-July	4800 4250	98 98		4879 4317
3300	MISSOURI RIVER Williston, N.D. (near)(29)	Apr-Sept Apr-July	11200 10000	102 102		11059 9828

## SASKATCHEWAN RIVER BASIN

0175	SAINT MARY RIVER Babb (near)(30)	Apr-Sept Apr-July	410 352	83 83		491 424
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- (20) Adjusted for storage in Two Medicine, Four Horns, Lake Frances & Swift Reservoirs.  
 (21) Adjusted for storage in Canyon Ferry and Tiber Reservoirs.  
 (22) Adjusted for storage in Canyon Ferry, Tiber and Fort Peck Reservoirs.  
 (29) Adjusted for storage in Canyon Ferry, Tiber, Fort Peck, Buffalo Bill, Boysen and Yellowtail Reservoirs.  
 (30) Adjusted for storage in Lake Sherburne.





# WATER SUPPLY FORECASTS

AS OF APRIL 1, 1968

(1000 Acre Feet)						
NO.	RIVER AND FORECAST POINT	FORECAST	FORECAST	PERCENT	MEASURED FLOW	
		PERIOD	THIS YEAR	AVERAGE	LAST YEAR*	AVERAGE
YELLOWSTONE RIVER BASIN						
YELLOWSTONE RIVER						
1915	Corwin Springs (at)	Apr-Sept	1900	101	2370	1877
		Apr-July	1590	101	2003	1572
YELLOWSTONE RIVER						
1925	Livingston (near)	Apr-Sept	2250	106		2127
		Apr-July	1880	106		1770
SHIELDS RIVER						
1935	Clyde Park (at)	Apr-Sept	130	132		99.0
		Apr-July	121	132		92.2
BOULDER RIVER						
2000	Big Timber (at)	Apr-Sept	415	121		343
		Apr-July	388	121		321
STILLWATER RIVER						
2050	Absarokee (near)(25)	Apr-Sept	620	112		552
		Apr-July	520	112		465
CLARKS FORK RIVER						
2075	Chance (at)	Apr-Sept	630	108		583
		Apr-July	570	108		528
CLARKS FORK RIVER						
2085	Edgar (at)	Apr-Sept	660	108	837	609
		Apr-July	580	108	757	538
ROCK CREEK						
2095	Red Lodge (near)	Apr-Sept	115	112	138	103
		Apr-July	89	112	108	79.6
YELLOWSTONE RIVER						
2145	Billings (at)	Apr-Sept	4350	111	5611	3913
		Apr-July	3730	111	4953	3362
BIG HORN RIVER						
2870	Saint Xavier (near)(26)	Apr-Sept	1420	85	2969	1677
		Apr-July	1330	85	2789	1568
LITTLE BIG HORN RIVER						
2920	Lodgegrass (near)(28)	Apr-Sept	125	127		98.4
		Apr-July	109	127		86.2
YELLOWSTONE RIVER						
3090	Miles City (at)(27)	Apr-Sept	5950	103		5778
		Apr-July	5230	103		5080
YELLOWSTONE RIVER						
3295	Sidney (near)(27)	Apr-Sept	6000	102		5850
		Apr-July	5350	102		5230

(25) Adjusted for storage in Mystic Lake.

(26) Adjusted for storage in Buffalo Bill, Boysen, Bull Lake and Yellowtail Reservoirs.

(27) Adjusted for storage in Buffalo Bill, Boysen and Yellowtail Reservoirs.

(28) Sum Little Big Horn below Pass Creek and Lodgegrass Creek near Wyola.

Title	Author	Institution	Address	Abstract
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Abstracts

1	The effect of...	A. B. C.	Addis Ababa	The effect of...	The effect of...
2	The effect of...	A. B. C.	Addis Ababa	The effect of...	The effect of...
3	The effect of...	A. B. C.	Addis Ababa	The effect of...	The effect of...
4	The effect of...	A. B. C.	Addis Ababa	The effect of...	The effect of...
5	The effect of...	A. B. C.	Addis Ababa	The effect of...	The effect of...
6	The effect of...	A. B. C.	Addis Ababa	The effect of...	The effect of...
7	The effect of...	A. B. C.	Addis Ababa	The effect of...	The effect of...
8	The effect of...	A. B. C.	Addis Ababa	The effect of...	The effect of...
9	The effect of...	A. B. C.	Addis Ababa	The effect of...	The effect of...
10	The effect of...	A. B. C.	Addis Ababa	The effect of...	The effect of...
11	The effect of...	A. B. C.	Addis Ababa	The effect of...	The effect of...
12	The effect of...	A. B. C.	Addis Ababa	The effect of...	The effect of...
13	The effect of...	A. B. C.	Addis Ababa	The effect of...	The effect of...

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# SNOW SURVEY DATA

AS OF APRIL 1, 1968

(Pages)

SNOW COURSE			CURRENT DATA			PAST RECORD	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER EQUIV	WATER CONTENT	
						PAST YEAR	AVERAGE

## COLUMBIA RIVER BASIN

### KOOTENAI RIVER

15B11	Baree Creek	5500	4/1	98	40.7	59.6	50.5
15B16	Baree Midway	4600	4/1	66	27.7	46.8	-
15B15	Baree Trail	3800	4/1	0	0.0	9.4	-
14A04	Brush Creek	5000	3/29	23	8.5	15.0	14.3*
BC 10	Fernie	3500	3/29	2	1.0	10.6	9.5
BC 12A	Field	4200	3/29	22	6.0	9.9	5.4
BC 11	Glacier	4100	3/30	87	30.9	53.4	27.6
14A11	Graves Creek	4300	3/28	37	12.9	25.3	-
BC 43	Gray Creek	5100	3/30	57	15.3	26.1	19.7
BC 33	Kicking Horse	5400	3/29	58	14.5	21.3	14.8
BC 20B	Kimberley	3800	3/30	11	4.4	8.9	7.7
BC 32	Marble Canyon	5000	3/29	30	10.1	18.7	13.8
BC 10B	Morrissey Ridge	6100	3/29	69	22.8	37.5	-
BC 10A	New Fernie	4100	3/29	29	9.8	23.0	15.4*
15A01	Red Mountain	6000	3/27	47	14.9	27.1	21.4
BC 8A	Sinclair Pass	4500	3/29	18	5.2	9.4	5.4
BC 20A	Sullivan Mine	5100	4/1	43	13.1	20.4	15.6
BC 41	Upper Elk River	4400	3/27	5	1.6	9.5	8.2
14A07	Weasel Divide	5450	3/28	90	31.1	53.0	34.1

### FLATHEAD RIVER

14B03	Bassoo Peak	5150	3/26	21	7.6	13.1	13.4*
13A11	Beaver Lake	5900	4/5	59	22.6	31.1	23.0*
13B03	Big Creek	6750	3/28	104	41.9	55.2	46.4
13A17	Camp Misery	6400	4/1	111	42.4	64.2	43.0*
13A02	Desert Mountain	5600	4/2	44	15.6	20.9	16.9
13B04	Fatty Creek	5500	3/28	53	19.2	31.0	21.7*
14A09	Griffin Creek Divide	5150	3/27	24	7.9	15.8	14.3*
13B12	Gunsight Lake	6300	4/4	100	40.2	54.4	41.0*
14A03	Hell Roaring Divide	5770	4/1	76	29.2	45.7	32.3
13B13	Holbrook	4530	4/4	10	4.2	14.8	10.4*
14A06	Kishenehn	3890	3/28	11	4.5	10.9	10.4
14A05	Logan Creek	4300	3/29	12	5.3	9.7	9.5
13A05	Marias Pass	5250	3/28	33	12.6	24.3	20.1
13A16	Mineral Creek	4000	4/2	30	10.0	25.4	22.9
13B07	North Fork Jocko	6330	3/29	102	40.6	58.2	46.7
13B02	Spotted Bear Mountain	7000	4/4	32	11.5	22.3	15.5
13B01	Trinkus Lake	6100	4/4	95	41.9	59.6	44.2*
13B11	Twin Creeks	3580	4/5	0	0.0	16.2	12.1*
13B05	Upper Holland Lake	6200	4/4	92	36.8	47.4	36.3*





# SNOW SURVEY DATA

AS OF APRIL 1, 1968

(inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	WATER CONTENT	
						LAST YEAR	AVERAGE
<u>CLARK FORK RIVER</u>							
3C13	Black Pine	7100	3/28	42	14.0	16.8	14.6*
3C13	Black Pine Pillow	7100	3/28	SP	15.4	17.0	-
2B10	Copper Creek	5700	3/26	25	9.3	22.8	15.5*
2B11	Cotter Mine	6250	3/26	31	10.6	26.0	17.5*
3B10	Coyote Hill	4200	3/28	10	4.6	12.8	11.0
3C09	El Dorado Mine	7800	3/29	77	25.8	23.6	22.6*
3C11	Fred Burr Pass	8000	3/28	89	31.3	30.0	29.0*
3C10	Gold Creek Lake	7200	3/29	58	17.8	18.8	17.0*
4C10	Heart Lake Trail	4800	4/2	37	14.8	28.0	-
5C10	Hoodoo Basin	6000	4/2	122	47.6	56.9	-
5C10	Hoodoo Basin Pillow	6000	4/2	SP	46.3	54.8	-
5C01	Hoodoo Creek	5900	4/2	110	41.3	53.4	53.4
3C04	Intergaard	6450	4/2	40	10.3	11.8	8.5*
5B02	Lookout	5250	4/1	78	28.8	40.8	40.5
3C21	Lubrecht Forest No. 3	5450	3/31	14	5.2	7.4	8.2*
3C22	Lubrecht Forest No. 4	4650	3/31	0	0.0	2.8	3.5*
3C08	Lubrecht Forest No. 6	4040	3/31	0	0.0	2.3	3.5*
3C12	Red Lion	7100	3/28	64	20.1	18.2	17.5*
3C03	Skalkaho Summit	7260	3/26	75	25.6	30.8	27.4
3C02	Slide Rock Mountain	7100	3/27	43	14.3	16.8	16.0
3C05	Southern Cross	6500	4/2	28	8.3	10.5	7.0*
3C18	Spring Gulch	6000	3/30	26	9.6	12.9	12.5*
3C07	Storm Lake	7780	3/25	57	16.6	15.5	15.5
3C06	Stuart Mill	6500	4/2	31	8.7	10.2	7.5*
3C01	Stuart Mountain	7400	3/30	78	32.1	35.4	32.6
4B01	TV Mountain	6800	3/31	51	17.5	20.6	18.7*

## BITTERROOT RIVER

3C16	Ambrose	6480	4/1	37	12.9	15.4	14.3*
3D01	East Fork R. S.	5400	3/29	13	5.6	7.0	7.7
3D02	Gibbons Pass	7100	3/28	65	22.3	26.2	25.0
4D03	Kit Carson	5020	3/29	10	4.4	10.6	9.0
4C05	Lolo Pass	5230	3/27	62	24.4	37.8	36.4*
4C07	Lost Horse	5940	3/28	76	29.8	34.5	35.6*
3D16	Moose Creek	6200	3/27	43	13.8	18.4	17.1
4D02	Nez Perce Camp	5680	3/29	28	10.4	17.4	15.8
4D01	Nez Perce Pass	6570	3/29	41	15.9	19.4	18.3
3D22	Saddle Mountain	7940	3/29	76	26.2	28.4	-
3D22	Saddle Mountain Pillow	7940	3/29	SP	26.7	-	-
4C04	Savage Pass	6600	3/27	66	24.6	32.0	30.5*
4C13	Twelvemile Creek	5600	3/28	44	17.9	-	-
4C13	Twelvemile Creek Pillow	5600	3/28	SP	18.4	-	-
4C08	Twin Lakes	6510	3/28	114	41.9	46.3	46.7*
4C12	Twin Lakes Pillow	6400	3/28	SP	39.3	-	-

SP - Snow pillow observation - water content only.

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NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). ADJUSTED AVERAGE





# SNOW SURVEY DATA

AS OF APRIL 1, 1968

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	WATER CONTENT	
						LAST YEAR	AVERAGE

## MISSOURI RIVER BASIN

### BEAVERHEAD RIVER

13D10	Bloody Dick	7600	3/28	39	11.8	12.4	11.7
11E11	Blue Ledge Mine	6700	4/5	43	14.7	23.0	16.7
12E03	Camp Creek	6800	3/28	29	9.5	12.0	10.4
12D04	Carter Creek	7400	3/31	25	6.4	9.4	5.8
13E22	Dad Creek Lake	8400				17.4	12.5*
13D15	Elk Horn Springs	7800	4/1	35	10.0	10.0	10.4
13D09	Gold Stone	8100	3/28	50	15.6	16.6	15.3
11E12	Kilgore	6200	4/5	25	9.0	11.1	10.0
11E04	Lakeview Canyon	6930	3/29	40	13.7	17.5	10.8
11E03	Lakeview Ridge	7400	3/29	35	11.7	16.7	9.7
13E01	Lemhi Pass	7480	3/29	33	10.2	9.4	9.2
13E23	Lemhi Ridge	8100	3/29	32	9.9	10.0	-
13E02	Trail Creek	7090	3/29	31	9.0	9.3	8.8
12E01	White Pine Ridge	8850				5.2	5.9

### RUBY RIVER

11D14	Branham Lakes	8850	4/1	79	30.8	30.0	-
11D08	Clover Meadow	8600				21.7	15.0*
12E07	Divide	7900				13.1	9.0*
11D15	Middle Mill Creek	7850	4/1	46	16.4	14.0	-
12E06	Notch	8500				18.7	12.8*
12D05	Smuggler Mine	6960	4/1	33	10.6	9.0	-

### BIG HOLE RIVER

13D20	Abundance Lake	8800				21.2	20.3*
13D19	Darkhorse Lake	8600				31.0	26.0*
13D21	Foolhen	8280				21.5	18.2*
13D08	Jahnke Creek	7340	3/28	28	8.6	10.8	11.2
13D24	Slag-A-Melt Lake	8750				-	-

### JEFFERSON RIVER

12C07	Berry Meadow	7300	3/25	30	8.0	10.2	7.8*
12C09	Copper Mountain	7700	4/1	45	14.2	13.4	-
12C10	Nez Perce Creek	6500	4/1	22	6.6	8.7	-
12C06	Picnic Grounds	6500	4/2	19	4.8	6.0	4.8*
12D01	Pipestone Pass	7200	3/26	27	7.0	7.0	6.2
12C11	Rocker Peak	8000	3/25	56	18.4	-	-
12C11	Rocker Peak Pillow	8000	3/25	SP	17.4	-	-

SP - Snow pillow observation - water content only.

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NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). \*ADJUSTED AVERAGE





# SNOW SURVEY DATA

AS OF APRIL 1, 1968

(inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	WATER CONTENT	
						LAST YEAR	AVERAGE
<u>MADISON RIVER</u>							
11E09	Big Springs	6500	3/28	50	17.9	26.7	22.6
11D07	Call Road	8050				14.7	10.2*
11D12	Four Mile	6900	3/27	32	9.7	8.9	9.0*
11E05	Hebgen Dam	6550	3/30	35	13.1	13.3	12.2
11E10	Island Park	6315	3/28	40	13.5	19.6	17.6
11D05	Jack Creek	7500	3/26	25	7.2	7.8	-
11E22	Lake Creek	6100	3/25	28	8.0	9.8	-
11E28	Lion Mountain	8760	3/27	63	21.5	22.8	-
11E28	Lion Mountain Pillow	8760	3/27	SP	18.4	20.0	-
11D11	Lower Twin	7900	3/27	69	23.2	21.2	20.0*
11E31	Madison Plateau	7750	3/28	53	18.5	-	-
11E31	Madison Plateau Pillow	7750	3/28	SP	21.0	-	-
11E23	Meridian Creek	7000	3/26	36	10.6	10.8	-
10E02	Norris Basin	7500	3/31	36	12.6	13.6	9.9*
11D03	North Meadow	7500	3/27	35	9.0	9.0	9.4
11E21	Potomageton Park	7150	3/29	41	15.6	21.0	-
11E20	Sentinel Creek	8300	3/29	71	26.8	32.1	-
11E24	Tepee Creek	8000	3/26	50	15.0	17.2	-
11E08	Valley View	6500	3/28	50	17.8	25.2	16.4
11E07	West Yellowstone	6700	3/31	29	9.8	17.0	11.7
11E07	West Yellowstone Pillow	6700	3/28	SP	8.7	14.4	-
11E30	Whiskey Creek	6800	3/28	55	19.5	26.0	-

## GALLATIN RIVER

10D14	Arch Falls	7350	4/1	78	16.5	16.8	12.1*
11D09	Bear Basin	8150	3/26	73	26.0	25.1	20.4*
10D15	Bridger Bowl	7250	3/29	91	35.4	34.5	26.0*
10D15	Bridger Bowl Pillow	7250	3/29	SP	30.5	33.0	-
11E29	Carrot Basin	9000				44.0	-
11E29	Carrot Basin Pillow	9000	3/22	SP	26.0	38.9	-
10D04	Devil's Slide	8100	4/1	76	28.2	26.8	22.3
10D03	Hood Meadow	6600	4/1	34	11.8	13.4	10.0
10D13	Lick Creek	6860	4/1	37	11.6	13.6	-
10D13	Lick Creek Pillow	6860	4/1	SP	11.4	15.0	-
11D10	Little Park	7400	3/26	60	21.0	19.4	14.8*
10D18	Maynard Creek	6210	3/29	55	20.4	19.0	-
10D18	Maynard Creek Pillow	6210	3/29	SP	14.2	14.8	-
10D01	New World	6700	3/27	44	15.4	16.2	10.8
10D16	Shower Falls	8100	4/1	83	32.8	31.8	-
10D16	Shower Falls Pillow	8100	4/1	SP	29.2	27.8	-
11D13	Taylor Peaks	8500	3/25	68	26.1	-	-
11E06	Twenty-One Mile	7150	3/31	44	16.0	24.5	18.2

SP - Snow pillow observation - water content only.

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NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). \*ADJUSTED AVERAGE





# SNOW SURVEY DATA

AS OF APRIL 1, 1968

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	WATER CONTENT	
						LAST YEAR	AVERAGE

## MISSOURI RIVER (Main Stem)

11C01	Boulder Mountain	7950	3/25	56	20.0	21.1	15.5*
12C05	Chessman Reservoir	6200	3/27	18	6.3	5.6	4.9
10C09	Deadman Creek	6450	3/27	38	11.6	16.8	-
10C09	Deadman Creek Pillow	6450	3/27	SP	10.8	-	-
10C07	Elk Peak	8000	3/26	57	19.5	22.2	15.8*
10C02	Grasshopper	7000	3/26	27	7.6	7.8	5.7
10C01	Kings Hill	7500	3/26	48	15.2	19.4	13.6
9A01	Rocky Boy	5200	4/1	13	4.4	8.4	4.3
9A01	Rocky Boy Pillow	5200	4/1	SP	4.1	-	-
12C01	Stemple Pass	6600	3/27	31	9.5	15.4	11.0
12C02	Ten Mile Lower	6600	3/26	27	9.3	10.2	7.2
12C03	Ten Mile Middle	6800	3/25	42	13.0	13.3	11.2
12C04	Ten Mile Upper	8000	3/25	52	17.2	15.1	14.3

## SUN-TETON-MARIAS RIVERS

13A15	Badger Pass	6900	4/5	100	41.5	43.3	36.0*
12B06	Cabin Creek	5200	4/3	15	4.5	14.4	7.0*
12B09	Five-Bull	5700	4/4	14	5.0	12.1	7.1*
12A01	Freight Creek	6000	4/5	34	13.6	23.3	17.0
12B07	Goat Mountain	7000	3/31	26	8.0	15.6	12.3
12B04	Wrong Creek	5700	4/2	32	11.8	21.6	15.8*
12B03	Wrong Ridge	6800	4/2	50	18.2	28.4	22.2*

## JUDITH RIVER

9C02	Avalanche	7100	4/1	71	27.3	30.9	-
9C01	Crystal Lake	6100	4/1	42	16.0	19.1	12.2
9C03	Rock Creek	5600	4/1	30	11.5	12.3	-
10C06	Spur Park	8000	3/27	66	23.8	31.3	19.2*
10C06	Spur Park Pillow	8000	3/27	SP	22.5	30.0	-

## SAINT MARY RIVER

13A18	Hudson Bay Divide	5800	3/29	48	17.2	23.6	19.3*
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## SASKATCHEWAN (BOW) RIVER

Alb. 1	Bow River	5100	3/25	30	6.7	17.2	9.2
Alb. 2	Upper Pipestone	5300	3/25	28	6.4	17.1	9.1
Alb. 6	Mirror Lake	6600	3/26	40	10.0	21.2	13.1
Alb. 8	Chateau Lawn	5700	3/26	37	9.2	18.8	11.7
Alb. 10	Mount Eisenhower	5000	3/25	14	3.5	8.2	-

SP - Snow pillow observation - water content only.

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). -22- ADJUSTED AVERAGE





# SNOW SURVEY DATA

AS OF APRIL 1, 1968

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	WATER CONTENT	
						LAST YEAR	AVERAGE

## UPPER YELLOWSTONE RIVER

10C05	Bald Ridge	7500	3/28	47	14.4	15.6	11.7*
9D01	Camp Senia	7890	4/1	31	9.2	10.1	6.3
10E03	Canyon	7750	3/29	48	15.3	21.7	16.3
9D07	Cooke Station	8150	3/29	60	20.6	26.7	-
10D05	Crevice Mountain	8400	3/28	44	13.4	14.1	9.5
10E06	East Entrance	7000	3/23	24	5.6	10.0	11.3*
9D06	Fisher Creek	9100	3/29	95	34.4	51.4	-
9D06	Fisher Creek Pillow	9100	3/29	SP	34.2	52.3	-
9D05	Grizzly Peak	8400	3/29	64	19.2	20.3	15.7*
10D06	Independence	8000	3/29	57	20.4	24.9	19.2*
10E04	Lake Camp	7850	3/29	28	7.0	14.1	11.1
9E01	Lodgepole	8200	3/29	37	9.9	15.0	11.8*
10E06	Lupine Creek	7300	3/31	34	10.2	15.2	11.2
10D12	Monument Peak	9000	3/29	78	27.8	33.8	23.0*
10D07	Northeast Entrance	7400	3/28	34	9.8	14.0	9.3
10D07	Northeast Entrance Pillow	7350	3/28	SP	9.6	12.3	-
10C03	Porcupine R. S.	6500	3/28	37	11.0	9.4	7.7
10D10	Sacajawea	6550	4/2	49	18.0	17.2	13.0*
10C08	South Fork Shields	8100	3/28	77	27.1	29.6	-
10E05	Sylvan Pass	7100	3/25	45	12.1	15.0	14.9
10E07	Thumb Divide	7900	3/31	57	19.0	26.8	24.2
9D04	Timberline Creek	8850	4/1	57	18.4	23.0	14.1*
9D02	West Rosebud	7500	3/27	38	13.5	20.8	-
9D08	White Mill	8700	3/29	78	27.3	36.6	-

SP - Snow pillow observation - water content only.





# SOIL MOISTURE DATA

AS OF APRIL 1, 1968

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE

## COLUMBIA RIVER BASIN

### Kootenai

15B15M	Baree Trail	3800	48	7.5	4/1	6.5	5.2	-
14A10M	Murphy Lake R. S.	3000	48	22.6	4/2	20.0	21.9	-
15A02M	Raven R. S.	3050	48	23.0	4/3	21.5	22.2	-

### Flathead

13A02M	Desert Mountain	5600	54	8.4	4/2	7.6	8.2	7.5
13A05M	Marias Pass	5250	54	6.5	4/1	5.7	5.5	5.5

### Clark Fork

13C13M	Black Pine	7100	48	10.0	3/28	7.5	7.9	-
13B19M	Seeley Lake R. S.	4030	48	11.9	4/4	11.9	10.4	-
13C03M	Skalkaho Summit	7260	48	10.8	3/26	9.8	9.9	-

### Bitterroot

13D18M	Gibbons Pass	7100	48	7.1	3/29	5.7	4.8	5.3
14C05M	Lolo Pass	5250	48	10.6	4/1	10.0	4.0	5.7

## MISSOURI RIVER BASIN

### Beaverhead

11E13M	Lakeview	6700	48	15.3	4/1	5.4	6.7	8.8
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### Madison

10D04M	Red Bluff	4800	40	4.7			2.4	2.5
11E07M	West Yellowstone	6700	48	6.5	3/28	3.7	2.6	-

### Gallatin

10D15M	Bridger Bowl	7250	48	17.0	3/29	15.7	15.5	-
11D02M	College Site	4856	54	14.5	3/29	14.4	14.6	11.7
10D13M	Lick Creek	6860	48	18.8	4/1	17.8	19.1	-
11E06M	Twenty-One Mile	7150	48	10.0	3/28	4.1	2.8	-

### Missouri Main Stem

10C01M	Kings Hill	7420	48	11.8	3/27	6.2	4.8	7.4
13C08M	Stemple Pass	6350	48	5.9	3/29	5.1	4.0	4.5

### Yellowstone

10D11M	Battle Ridge	6020	48	17.6	4/2	14.6	15.2	13.9
10D07M	Northeast Entrance	7350	48	9.4	3/28	5.3	4.9	6.6

\*\*AVERAGE FOR PERIOD OF RECORD

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# RESERVOIR STORAGE DATA

AS OF MARCH 31, 1968

(1000 Acre Feet)

			USEABLE STORAGE		
BASIN	RESERVOIR	USEABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE
<u>COLUMBIA RIVER BASIN</u>					
Flathead	Hungry Horse	3,428.0	2,215.0	1,551.0	2,244.4**
	Flathead Lake	1,791.0	889.4	731.3	690.8
	Camas (Sum of 4)	45.2	25.5	27.1	33.8
	Mission Valley (Sum of 8)	100.3	31.4	26.4	37.2
Clark Fork	Georgetown Lake	31.0	25.2	19.3	21.8
	Noxon Rapids	334.6	261.9	158.9	-
Bitterroot	Como	34.9	22.3	11.8	13.4
	Painted Rocks	31.7	25.5	15.2	14.1**
<u>MISSOURI RIVER BASIN</u>					
Beaverhead	Clark Canyon	328.9	159.3	115.0	-
	Lima	84.0	43.1	14.4	27.3
Ruby	Ruby	38.8		-	26.1**
Madison	Hebgen Lake	377.5	237.0	195.1	179.1
	Ennis Lake	41.0	35.2	39.4	36.4
Gallatin	Middle Creek	8.0	3.4	3.8	3.9**
Missouri	Canyon Ferry	2,043.0	1,430.0	1,028.0	1,529.0**
	Hauser & Helena	61.9	59.0	61.3	44.6
	Lake Helena	10.4	9.4	10.2	5.6
	Holter Lake	81.9	78.5	80.6	51.7
	Smith River	10.7	10.5	6.0	6.5**
	Ackley Lake	5.8	-	-	3.5
	Durand	7.0	7.0	4.2	4.9
	Martinsdale	23.1	9.4	7.4	8.7
	Deadman's Basin	72.2	61.0	45.8	41.6**
	Fort Peck	19,410.0	16,140.0	15,700.0	10,875.4
Sun	Gibson	105.0	41.1	24.3	60.6
	Willow Creek	32.3	17.8	16.6	21.0
	Pishkun	32.0	16.2	15.8	18.2
Marias	Lower Two Medicine			-	0.0
	Four Horns	19.2		11.6	10.6
	Swift	30.0	16.2	-	23.9
	Lake Frances	112.0	71.1	77.1	92.8
	Tiber	1,347.0	422.2	466.4	647.4**
Milk	Fresno	127.2	91.9	134.9	81.5
	Nelson	66.8	37.7	49.8	34.9
	Lake Sherburne	66.1	33.2	21.4	24.4
Yellowstone	Mystic Lake	20.8	4.0	4.4	4.8
	Tongue River	68.0		42.7	20.7
	Cooney	27.5	12.5	14.5	13.5**
Big Horn	Yellowtail	1,356.0	758.8	698.1	-

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).      \*\*AVERAGE FOR PERIOD OF RECORD

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# Agencies and Organizations Cooperating in Montana Snow Surveys

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Portland, Oregon

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Seattle, Washington  
Walla Walla, Washington  
Omaha, Nebraska

U. S. Indian Irrigation Service  
St. Ignatius, Montana

U. S. Weather Bureau  
Helena, Montana  
Portland, Oregon  
Kansas City, Missouri

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Red Rock Lakes Refuge  
Monida, Montana

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Butte, Montana

Montana Water Resources Board  
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Agricultural Experiment Station  
Havre, Montana

Montana State University  
Agricultural Experiment Station  
Bozeman, Montana

University of Montana  
School of Forestry  
Missoula, Montana

Water Rights Branch, Dept. of  
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